

ASSESSMENT OF CLIMATE CHANGE
IMPACTS ON WATER YIELD IN PAHANG
RIVER BASIN

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SUPERVISOR'S DECLARATION

I hereby declare that I have checked this thesis and in my opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor in Civil Engineering with Honours.

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STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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ASSESSMENT OF CLIMATE CHANGE IMPACTS ON WATER YIELD IN
PAHANG RIVER BASIN

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Thesis submitted in fulfillment of the requirements
for the award of the
Bachelor Degree in Civil Engineering

Faculty of Civil Engineering and Earth Resources
UNIVERSITI MALAYSIA PAHANG

JUNE 2017

ACKNOWLEDGEMENTS

First and foremost, I would like to express my thankful to Almighty Allah on the successful completion of this research work and thesis

I have great appreciations for my Supervisor, Dr.Mohamad Idris Bin Ali, who lifted me up to this level, for his patience and courage. Despite his busy schedule, he always took the time out to assist me.

Thanks to my members who helped me direct and indirect to this study. I would like to thanks to Dr. Nurul Nadrah Aqilah Binti Tukimat as Final Year Project coordinator.

Last but not least, I would like to express my gratitude to my parents, Ismail Bin Ibrahim and Lailani Binti Tuan Mahmood for their kindness and support especially motivate me during completion of my thesis.

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LIST OF SYMBOLS

c	Offset value
ET	Evapotranspiration
L	Depth
m	Coefficient value equal to 0.9
P	Precipitation
Q	Runoff
x	Bias coefficient
y	Calibrated TRMM data set
ΔG	Changes in groundwater storage
ΔWS	Changes in soil moisture storage

LIST OF ABBREVIATIONS

AET	Actual Evapotranspiration
ET	Evapotranspiration
GIS	Geographical Information System
GOES	Geostationary Operational Environmental Satellite
GRACE	Gravity Recovery And Climate Experiment
IPCC	Intergovernmental Panel on Climate Change
IWMI	International Water Management Institute
MMD	Malaysia Meteorological Department
MODIS	Moderate Resolution Imaging Spectroradiometer
NASA	National Aeronautics and Space Administration
NDVI	Normalized Differential Vegetation Index
NIR	Near Infrared
SEBS	Surface Energy Balance System
SHE	Système Hydrologique Européen (European Hydrological System)
SWM	Stanford Watershed Model
TMPA	TRMM Multi-satellite Precipitation Analysis
TRMM	Tropical Rainfall Measuring Mission
UNFCCC	United Nations Framework Convention on Climate Change
WS	Water Surplus
WWF	World Wildlife Fund